CLAIMS:

1. A device for analysis of materials by means of radiation, including
* a radiation source (6) for producing the radiation (42),
* a sample location (8) for accommodating a sample (10) of the material to be analyzed,
* a position sensitive detection device (9) for detecting the radiation (45) emanating from the sample,
* which detection device includes
  - an array (42) of radiation sensitive detector elements (44),
  - an electronic read-out circuit (48) which is connected to the detector array and includes charge amplifiers (58) in a one-to-one relationship with the detector elements (44), the input of said charge amplifiers being connected to a respective one of the detector elements,

characterized in that

the charge amplifiers (58) are constructed in the integrated bipolar technique, and that the electronic read-out circuit (48) includes signal processing circuits (74-82) which are connected to the outputs of the charge amplifiers and are constructed in the digital technique.

2. A device as claimed in claim 1, wherein the digital signal processing circuits are accommodated on the same substrate as the charge amplifiers.

3. A device as claimed in claim 2, wherein the digital signal processing circuits are constructed by means of a BICMOS process in the form of the Current Mode Logic (CML) technique.

4. A device as claimed in one of the preceding claims, wherein the assembly formed by the detector array (42) and the electronic read-out circuits (48) is accommodated on a common support (55) made of a ceramic material.

5. A position sensitive detection device for detecting radiation as defined in one of the preceding claims.